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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,423	11/28/2001	Kimberly A. Gillis	102729-12	6433

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EXAMINER
JOHANNSEN, DIANA B

ART UNIT	PAPER NUMBER
1634	

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,423	GILLIS ET AL.	
	Examiner	Art Unit	
	Diana B. Johannsen	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *21-34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *17-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *0202* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. It is noted that the paper and computer readable forms of the Sequence Listing filed May 13, 2002 have been entered.

Election/Restriction

2. Applicant's election with traverse of Group II in the Response of April 25, 2003 is acknowledged. The traversal is on the following ground(s).

First, Applicant argues "the invention is drawn to measuring the expression levels of FKBPs associated with prostate cancer" and that "The expression level can be monitored by either measuring the nucleic acids associated with FKBPs (e.g., RNA, or DNA), or the FKBP protein levels." In view of Applicant's arguments, and upon further consideration, the restriction of Groups I and II with respect to one another is withdrawn. Groups I-II have been rejoined, and claims 1-20 have been examined.

Second, Applicant argues that all claims "directed to measuring nucleic acids" (specifically, the claims of Groups I, III, IV, and VI) should be grouped together. Applicant argues that these methods employ common reagents and method steps, and should therefore be examined together. Applicant further argues that "a single search would suffice for claims 1-7, 11-20 (Group I), 21 and 34 (Group III), and 22, 25-26, and 28 (Group IV). These arguments have been thoroughly considered but are not persuasive. While it is acknowledged that Groups I, III, and IV share a common classification, and that each of Groups I, III, IV, and VI requires the use and/or detection of nucleic acids, a "single search" would not be sufficient for all of these Groups. Rather, each Group would require a search for different reagents, and for methods

requiring different types of steps that achieve differing objectives. As indicated in *MPEP* 803 and 808.02, the need to conduct a different field of search is sufficient to establish the existence of a serious burden, and in the instant case, applicant has not provided any showings or evidence that establish that such a burden does not exist. Accordingly, as Groups I, III, IV, and VI would require different searches that are not co-extensive, a search of more than one of said groups would pose a serious burden on the examiner, and therefore restriction as indicated is proper.

Third, Applicant argues that all claims directed to measuring protein levels and protein activity (specifically, the claims of Groups II, III, V, and VII) should be grouped together. Applicant argues that these methods employ common reagents and method steps, and should therefore be examined together. Applicant further argues that a single search would suffice for Groups II, III, V and VII. These arguments have been thoroughly considered but are not persuasive. While it is acknowledged that Groups II, III, and V share a common classification, and that each of Groups II, III, V, and VII requires the use and/or detection of polypeptides, a "single search" would not be sufficient for all of these Groups. Rather, each Group would require a search for different reagents, and for methods requiring different types of steps that achieve differing objectives. As indicated in *MPEP* 803 and 808.02, the need to conduct a different field of search is sufficient to establish the existence of a serious burden, and in the instant case, applicant has not provided any showings or evidence that establish that such a burden does not exist. Accordingly, as Groups II, III, V, and VII would require different searches that are not co-extensive, a search of more than one of said

groups would pose a serious burden on the examiner, and therefore restriction as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 21-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the Response of April 25, 2003.

Information Disclosure Statement

4. The information disclosure statement filed February 27, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed.

As copies of US patents are readily available to the examiner, the examiner has reviewed the cited US patents, and initialed and dated these citations on the 1449 provided by applicant. However, the foreign patents and other publications cited by applicant have not been considered.

Specification

5. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

6. The title of the invention is not descriptive of the elected invention. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Expression analysis of FKBP nucleic acids and polypeptides useful in the diagnosis of prostate cancer.

7. The use of the trademarks GENECHIP®, RNEASY®, DELFIA®, TAQMAN®, and STEADY GLO™ has been noted in this application. Trademarks should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner that might adversely affect their validity as trademarks.

Claim Objections

8. Claims 17-20 are objected to because of the following informalities. Claim 17 depends from itself, as does claim 19. The claims appear to contain typographical errors. This objection could be overcome by amending claim 17 such that it depends from claim 16, and claim 19 such that it depends from claim 18. It is also suggested that applicant review the dependency of claims 18 and 20, as it appears that applicant may have intended for claim 18 to depend from claim 16 (rather than claim 17), and for claim 20 to depend from claim 18 (rather than claim 19). Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods of assessing whether a human subject has prostate cancer and methods for monitoring the progression of prostate cancer in a human subject in which increased levels of FKBP54 expression products are detected, does not reasonably provide enablement for methods of detecting or monitoring prostate cancer in any type of subject by detecting any type of change in the levels of expression of any type of FKBP marker. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to: (A) the breadth of the claims; (B) the nature of the invention; (C) the state of the prior art; (D) the level of one of ordinary skill; (E) the level of predictability in the art; (F) the amount of direction provided by the inventor; (G) the existence of working examples; and (H) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) (*MPEP* 2164.01(a)).

Claims 1-15 are drawn to methods of "assessing whether a subject is afflicted prostate cancer [sic]" in which the levels of expression of "an FKBP marker" in test and control samples are compared, wherein a "significant difference" in levels between test and control levels "is an indication that the subject is afflicted with prostate cancer."

Claims 16-20 are drawn to methods of "monitoring the progression of prostate cancer in a subject" (claims 16-20), in which the levels of expression of any "FKBP marker" are detected at different timepoints in order to monitor progression.

It is unpredictable as to whether one of skill in the art could use applicant's invention in a manner reasonably commensurate with the claims. The teachings of the specification provide sufficient evidence to establish that a particular FKBP marker, FKBP54, is expressed at higher levels in at least some types of prostate cancers as compared to healthy prostate tissue in human subjects (see, e.g., page 92), and that both PSA and FKBP54 expression increases in response to androgen treatment in a known model of androgen dependent prostate cancer (see, e.g., pages 81-92). However, the instant claims are not limited to the particular FKBP marker for which data is provided in the specification, to prostate cancers in human subjects, or to methods in which an increase in expression is considered to be indicative of cancer or cancer progression. Rather, the claims are sufficiently broad so as to encompass the detection of any difference in the levels of expression of any type of FKBP marker in any type of subject as an indicator of cancer or cancer progression. Accordingly, the claims are extremely broad, encompassing numerous marker types and subject types for which no data is provided by applicant, as well as both decreases and increases in levels of marker expression (whereas applicant's data indicates that only increased expression is associated with cancer). Lacking guidance from the specification, one of skill in the art may look to the teachings of the art for additional guidance and enablement of a claimed invention. However, in the instant case, the prior art is silent with respect to

any association between levels of any FKBP marker and prostate cancer in non-human subjects, with respect to any association between prostate cancer and the levels of expression of any FKBP marker other than FKBP54, and with respect to any association between a decrease in FKBP54 expression and prostate cancer occurrence or progression. Given the high level of skill of one skilled in the relevant art, it is clearly within the ability of such an artisan to conduct further experimentation directed at determining whether, e.g., FKBP marker expression levels are associated with prostate cancer in any type of non-human subject, levels of any FKBP markers other than FKBP54 are associated with prostate cancer in humans, etc. However, the outcome of such experimentation cannot be predicted, and it is therefore unpredictable as to whether any quantity of experimentation would be sufficient to enable applicant's invention in a manner reasonably commensurate with the claims. Accordingly, while the teachings of the specification are sufficient to enable one of skill in the art to practice methods of assessing whether a human subject has prostate cancer and methods for monitoring the progression of prostate cancer in a human subject in which increased levels of FKBP54 expression products are detected, it would require undue experimentation to use applicant's invention as claimed.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17-18 are unclear and indefinite, and antecedent basis is lacking for the limitation "the marker," because claim 17 is currently written such that it depends from itself rather than from preceding claim 16. This rejection could be overcome by correcting the claim dependency as discussed above.

Claims 19-20 are unclear and indefinite, and antecedent basis is lacking for the limitation "the cells," because claim 19 is currently written such that it depends from itself rather than from preceding claim 18. This rejection could be overcome by correcting the claim dependency as discussed above.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diana B. Johannsen whose telephone number is 703/305-0761. The examiner can normally be reached on Monday-Friday, 7:30 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones can be reached at 703/308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are 703/872-9306 for regular communications and 703/872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703/308-0196.

Diana B. Johannsen
July 7, 2003